

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1323167
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1323167

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	YOUNGER 1-2
Doc ID	1323167

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	YOUNGER 1-2
Doc ID	1323167

Tops

Name	Top	Datum
Top Anhydrite	1738'	+587
Base Anhydrite	1781'	+544
Topeka	3434'	-1109
Heebner	3671'	-1346
Toronto	3688'	-1363
LKC	3704'	-1379
BKC	3953'	-1628
Marmaton	4054'	-1729
Cherokee Shale	4103'	-1778
Conglomerate Sand 1	4148'	-1823
Conglomerate Sand 2	4162'	-1837
Mississippi	4174'	-1849
Reworked Arbuckle	4268'	-1943

SWIFT Services, Inc.

DATE 11-4-16 PAGE NO. 1

WINZING - NELSON

WELL NO. 1-2

LEASE YOUNGER

JOB TYPE 8 5/8" SURFACE

TICKET NO. 29694

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL/GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1900							ON LOCATION
								TD-246 SET 246 TP-246 8 5/8 #23 15' CEMENT LEFT IN CASING
	2045							BREAK CIRCULATION
	2100	4 1/2	36.3		✓		100	MAX CEMENT - 150 SKS STANDARD 2% GEL, 3% CC
	2112	6	0		✓		150	DISPLACE CEMENT
	2115		14.8				100	CEMENT DISPLACED - SHUT IN CIRCULATED 20 SKS CEMENT TO PT
								WASH TACK
	2200							JOB COMPLETE
								THANK YOU WAYNE, DAVE K., PRESTON

SWIFT Services, Inc.

DATE 11-12-16 PAGE NO.

OWNER Rowling & Nelson

WELL NO. 1-2

LEASE YOUNGER

JOB TYPE TWO STAGE

TICKET NO. 29494

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2000							On location
								RTD - 4304
								Pipe set @ 4292.76
								Shoe - 36.20 @ 4256.56
								CENTRALIZERS - 1, 3, 5, 7, 9, 11, 61
								BASKET - 62
								D.V. - 62 @ 1723.50
	2005							START RUNNING CSG
	2215							BREAK CIRC ON BTM
	2245	5	12			400		Pump MUD FLUSH - 500 GAL
	2250	5	20			400		Pump VCL SPACER
	2255		36			400		Pump CMT - 150 EA-2 @ 15.5 ppg
								WASH B&L - Drop plug
	2310	7	101					Disp CMT
	2325	5				800		LAND PLUG - LIFT-800 LAND - 1500
	2330							DROP BOMB
	2335	2.5	11			0		PLUG RAT HOLE - 30 SKS
	2330	2.5	6			0		PLUG Mouse Hole - 15 SKS
	2340					1500		OPEN D.V. TOOL
	2345		86			200		Pump CMT - 155 SMD @ 112 ppg
								DROP PLUG
	0005	5	41					Disp CMT
	0015	5	41			600		LAND PLUG - LIFT 600 LAND - 1500
								Circulated 25 SKS CMT TO PIT
								Thanks
								DAVID, AUSTIN & ISAAC



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Younger #1-2

2-14s-22w Trego,KS

Start Date: 2016.11.09 @ 00:35:49

End Date: 2016.11.09 @ 06:44:02

Job Ticket #: 63537 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.11.14 @ 09:25:45



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63537

DST#: 1

ATTN: Ron Nelson

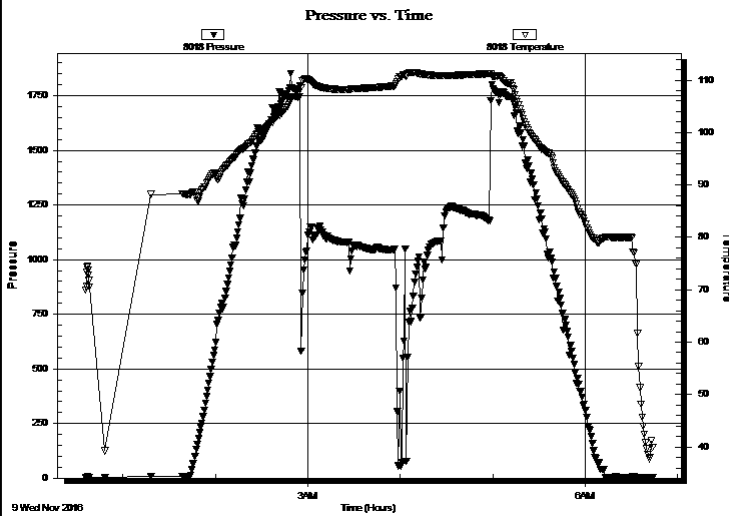
Test Start: 2016.11.09 @ 00:35:49

GENERAL INFORMATION:

Formation: **LKC " E"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 02:50:00
 Tester: Ray Schw ager
 Time Test Ended: 06:44:02
 Unit No: 77
 Interval: **3765.00 ft (KB) To 3783.00 ft (KB) (TVD)**
 Reference Elevations: 2325.00 ft (KB)
 Total Depth: 3783.00 ft (KB) (TVD)
 2317.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: KB to GR/CF: 8.00 ft

Serial #: 8018 Inside
 Press@RunDepth: psig @ 3766.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.09 End Date: 2016.11.09 Last Calib.: 2016.11.09
 Start Time: 00:35:49 End Time: 06:44:02 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k bl , died in 15 min , slid tool 10' to bottom
 30-ISIP-no bl
 30-FFP-no bl , flushed tool
 30-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud	0.64

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63537

DST#: 1

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 00:35:49

GENERAL INFORMATION:

Formation: **LKC " E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:50:00

Time Test Ended: 06:44:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schw ager

Unit No: 77

Interval: 3765.00 ft (KB) To 3783.00 ft (KB) (TVD)

Reference Elevations: 2325.00 ft (KB)

Total Depth: 3783.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inchesHole Condition:

KB to GR/CF: 8.00 ft

Serial #: 8374 Outside

Press@RunDepth: psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.09

End Date:

2016.11.09

Last Calib.:

2016.11.09

Start Time: 00:35:12

End Time:

06:44:06

Time On Btm:

Time Off Btm:

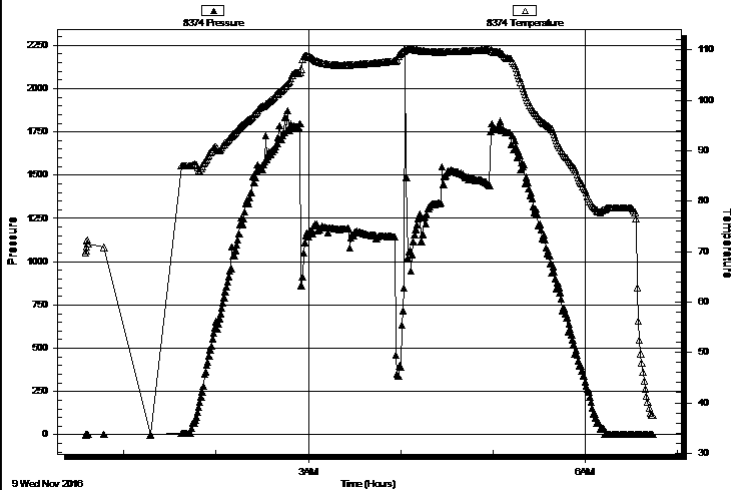
TEST COMMENT: 30-IFP-w k bl , died in 15 min , slid tool 10' to bottom

30-ISIP-no bl

30-FFP-no bl , flushed tool

30-FSIP-no bl

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud	0.64

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63537

DST#: 1

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 00:35:49

Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.80 inches	Volume: 52.45 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 52.60 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3765.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	39.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3745.00	
Shut In Tool	5.00			3750.00	
Hydraulic tool	5.00			3755.00	
Packer	5.00			3760.00	21.00 Bottom Of Top Packer
Packer	5.00			3765.00	
Stubb	1.00			3766.00	
Recorder	0.00	8018	Inside	3766.00	
Recorder	0.00	8374	Outside	3766.00	
Perforations	14.00			3780.00	
Bullnose	3.00			3783.00	18.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63537

DST#: 1

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 00:35:49

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.54 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
65.00	Mud	0.638

Total Length: 65.00 ft Total Volume: 0.638 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

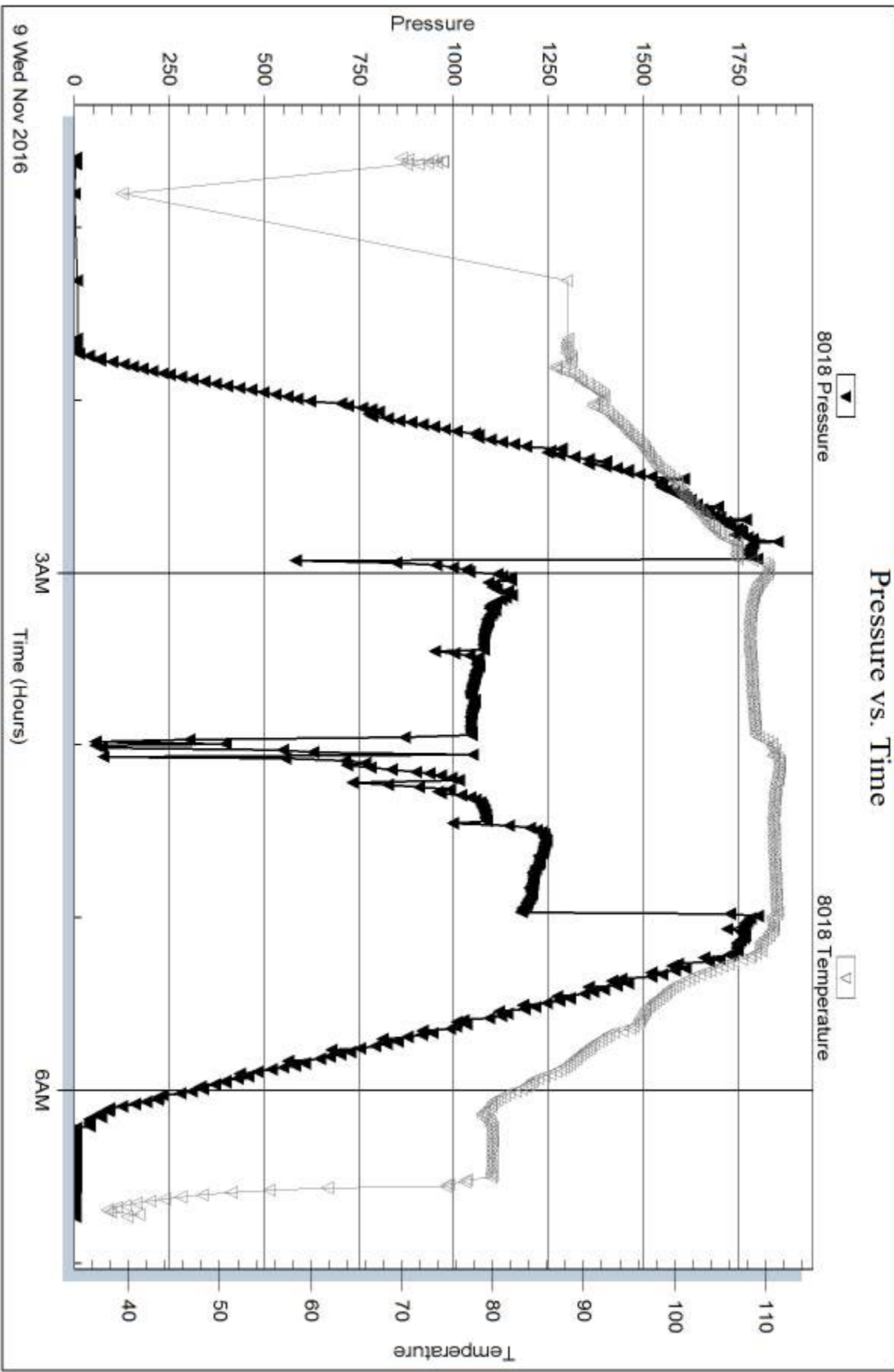
Serial #: 8018

Inside

Dow nrg-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63537

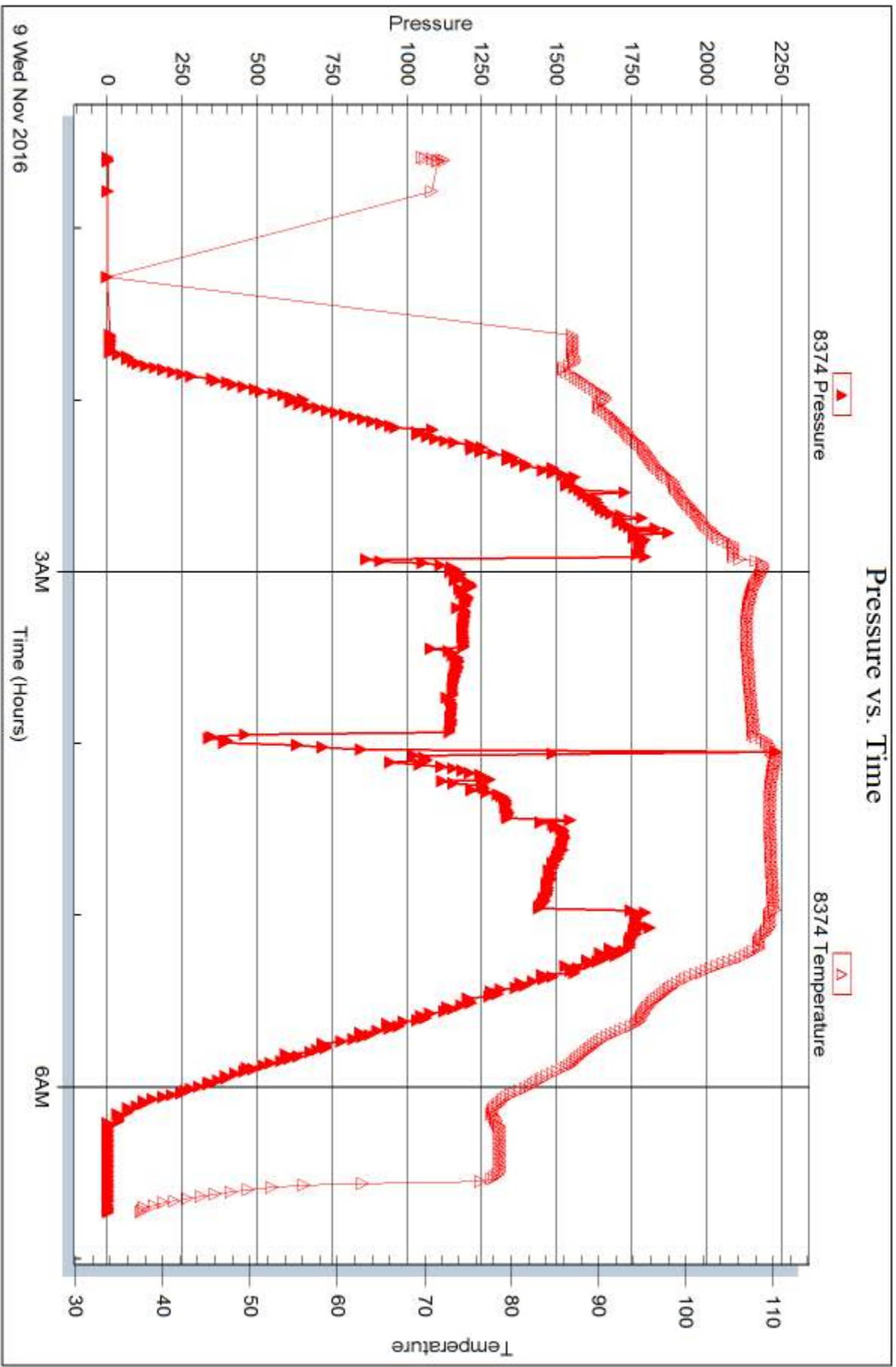
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Serial #: 8374

Outside Dow nmg-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63537

Printed: 2016.11.14 @ 09:25:46



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Younger #1-2

2-14s-22w Trego,KS

Start Date: 2016.11.09 @ 12:15:32

End Date: 2016.11.09 @ 17:53:56

Job Ticket #: 63538 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.11.14 @ 09:25:24



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63538

DST#: 2

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 12:15:32

GENERAL INFORMATION:

Formation: **LKC "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:17:42

Time Test Ended: 17:53:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: 3765.00 ft (KB) To 3783.00 ft (KB) (TVD)

Reference Elevations: 2325.00 ft (KB)

Total Depth: 3783.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition:

KB to GR/CF: 8.00 ft

Serial #: 8018 Inside

Press@RunDepth: 35.28 psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.09

End Date:

2016.11.09

Last Calib.:

2016.11.09

Start Time:

12:15:32

End Time:

17:53:56

Time On Btm:

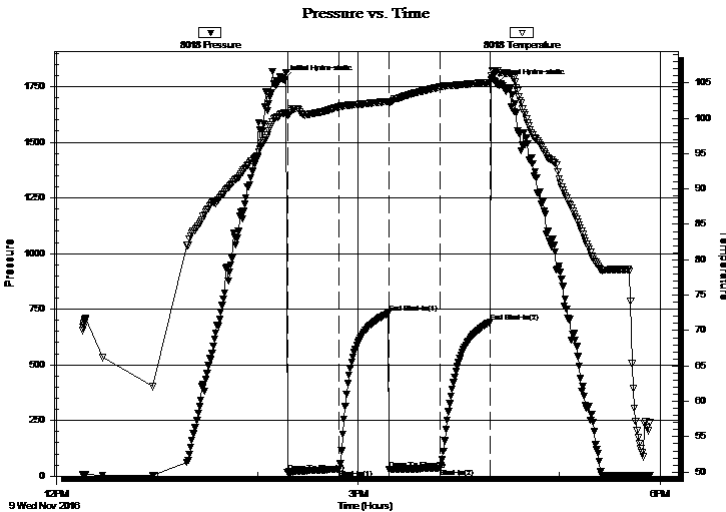
2016.11.09 @ 14:15:42

Time Off Btm:

2016.11.09 @ 16:22:27

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1" bl
30-ISIP-no bl
30-FFP-w k surface bl thru-out
30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1779.49	100.72	Initial Hydro-static
2	17.99	100.37	Open To Flow (1)
33	30.27	101.59	Shut-In(1)
63	731.41	102.39	End Shut-In(1)
63	30.80	102.10	Open To Flow (2)
93	35.28	104.39	Shut-In(2)
123	691.77	105.07	End Shut-In(2)
127	1762.48	106.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud w/show of oil	0.36

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63538

DST#: 2

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 12:15:32

GENERAL INFORMATION:

Formation: **LKC "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:17:42

Time Test Ended: 17:53:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: **3765.00 ft (KB) To 3783.00 ft (KB) (TVD)**

Total Depth: 3783.00 ft (KB) (TVD)

Hole Diameter: 7.88 inchesHole Condition:

Reference Elevations: 2325.00 ft (KB)

2317.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: **8700**

Outside

Press@RunDepth: psig @ 3766.00 ft (KB)

Start Date: 2016.11.09 End Date: 2016.11.09

Start Time: 12:15:29 End Time: 17:53:38

Capacity: 8000.00 psig

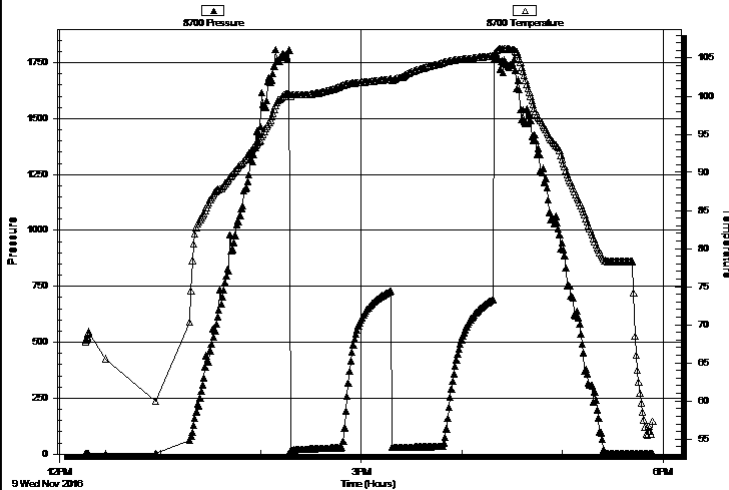
Last Calib.: 2016.11.09

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to 1" bl
30-ISIP-no bl
30-FFP-w k surface bl thru-out
30-FSIP-no bl

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud w/show of oil	0.36

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63538

DST#: 2

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 12:15:32

Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.80 inches	Volume: 52.45 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 52.60 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	56000.00 lb
Depth to Top Packer:	3765.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	18.00 ft				
Tool Length:	39.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3745.00	
Shut In Tool	5.00			3750.00	
Hydraulic tool	5.00			3755.00	
Packer	5.00			3760.00	21.00 Bottom Of Top Packer
Packer	5.00			3765.00	
Stubb	1.00			3766.00	
Recorder	0.00	8018	Inside	3766.00	
Recorder	0.00	8700	Outside	3766.00	
Perforations	14.00			3780.00	
Bullnose	3.00			3783.00	18.00 Bottom Packers & Anchor
Total Tool Length:	39.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63538

DST#: 2

ATTN: Ron Nelson

Test Start: 2016.11.09 @ 12:15:32

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.53 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
45.00	Mud w/show of oil	0.358

Total Length: 45.00 ft Total Volume: 0.358 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

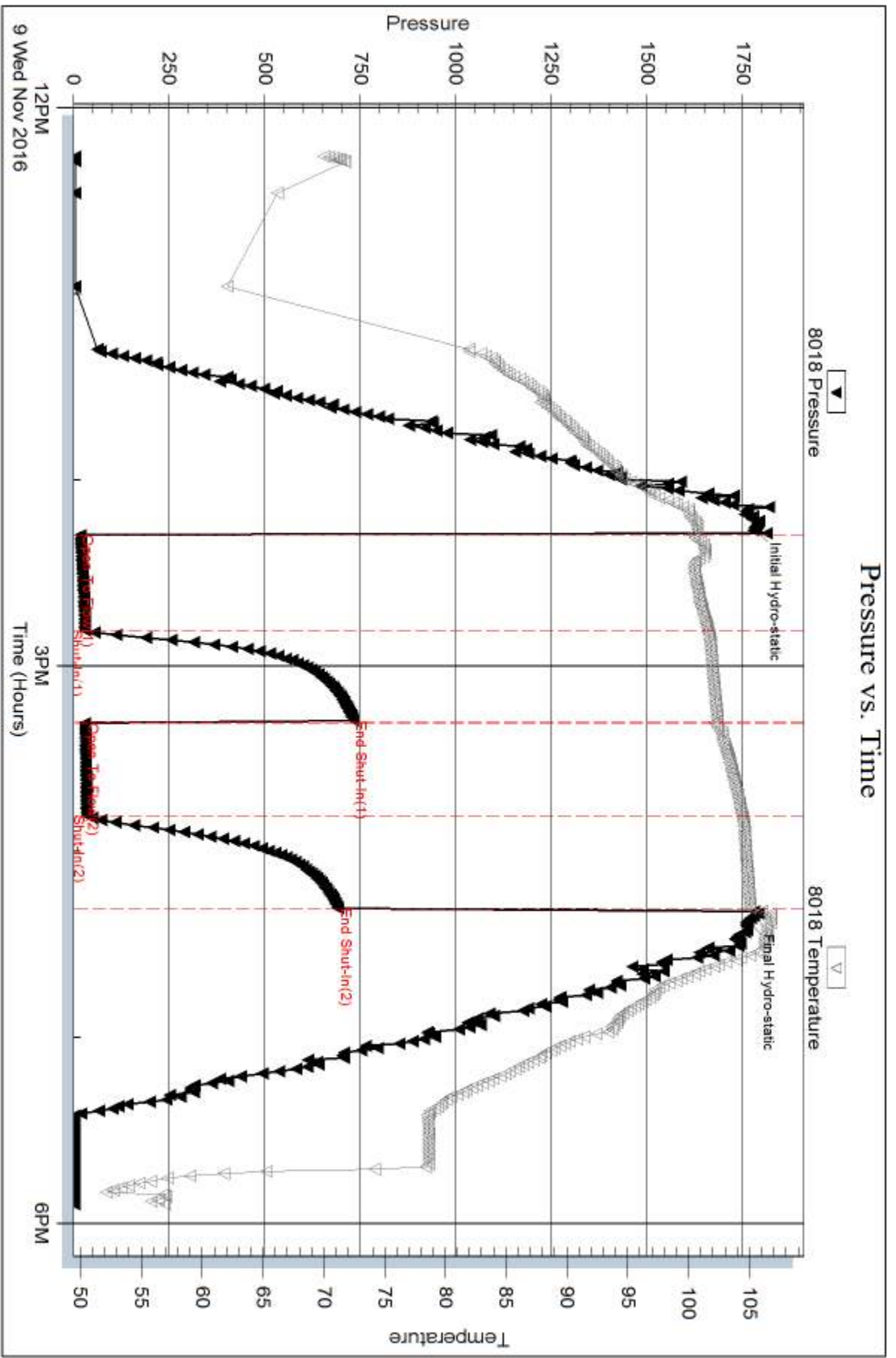
Serial #: 8018

Inside

Dow nging-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63538

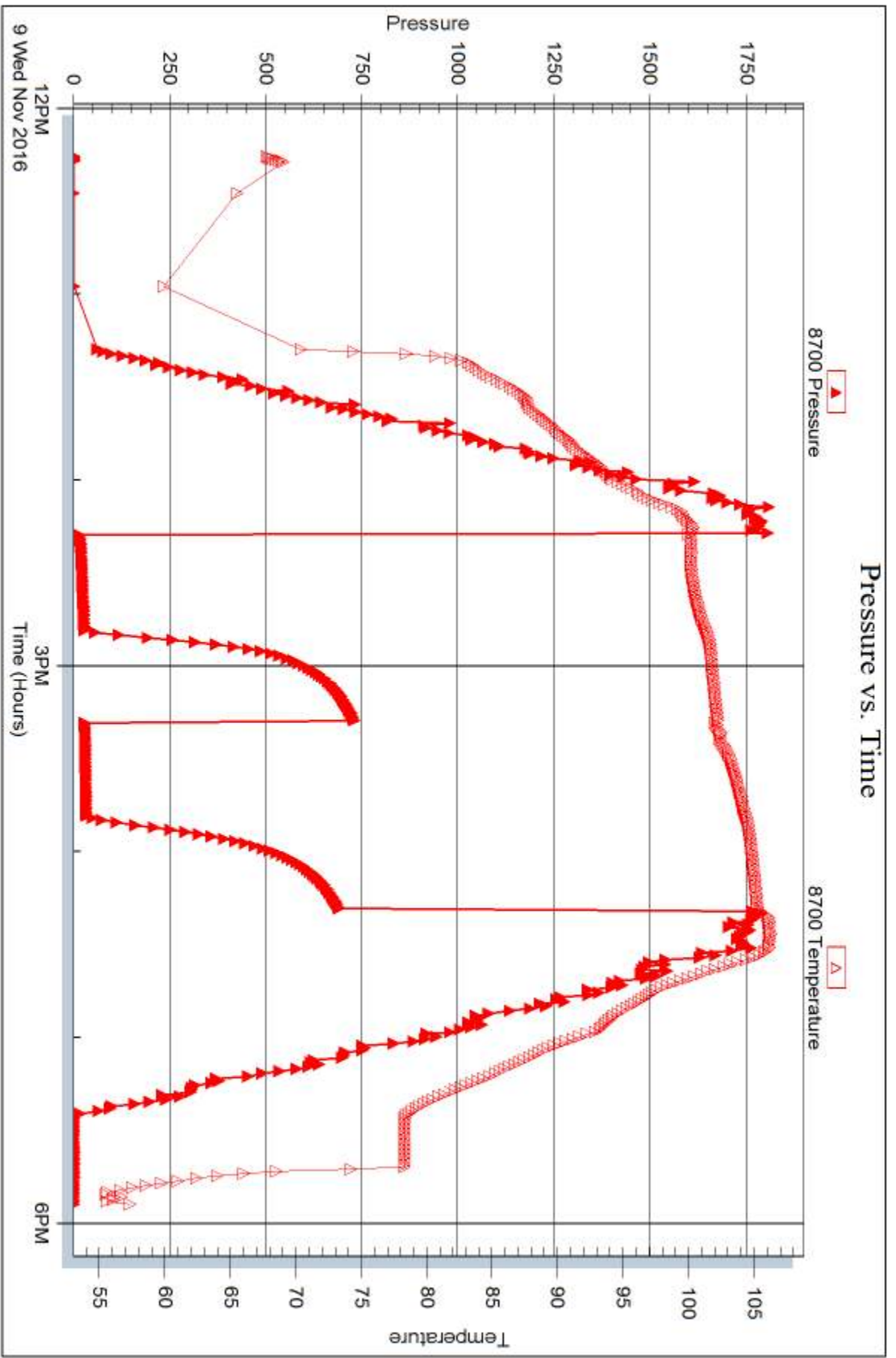
Printed: 2016.11.14 @ 09:25:25

Serial #: 8700

Outside Dow nting-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 63538

Printed: 2016.11.14 @ 09:25:25



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Younger #1-2

2-14s-22w Trego,KS

Start Date: 2016.11.10 @ 23:45:19

End Date: 2016.11.11 @ 06:51:58

Job Ticket #: 63539 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.11.14 @ 09:25:03



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63539

DST#: 3

ATTN: Ron Nelson

Test Start: 2016.11.10 @ 23:45:19

GENERAL INFORMATION:

Formation: **Conglomerate Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:48:14

Time Test Ended: 06:51:58

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: 4092.00 ft (KB) To 4153.00 ft (KB) (TVD)

Reference Elevations: 2325.00 ft (KB)

Total Depth: 4153.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 275.34 psig @ 4098.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.10

End Date:

2016.11.11

Last Calib.: 2016.11.11

Start Time: 23:45:19

End Time:

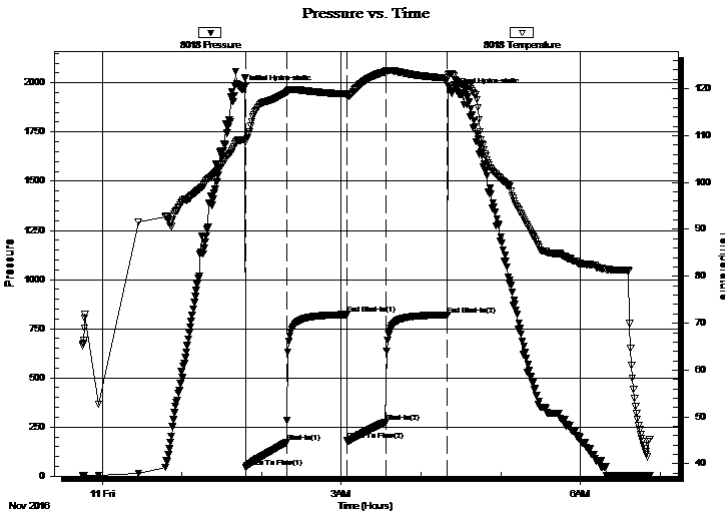
06:51:58

Time On Btm: 2016.11.11 @ 01:45:29

Time Off Btm: 2016.11.11 @ 04:22:58

TEST COMMENT: 30-IFP-w k to strg in 10 min
45-ISIP-2" bl bk
30-FFP-w k to strg in 7 min
45-FSIP-1" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.24	109.06	Initial Hydro-static
3	44.62	108.82	Open To Flow (1)
34	171.80	119.19	Shut-In(1)
79	822.37	118.87	End Shut-In(1)
79	183.76	118.45	Open To Flow (2)
108	275.34	123.60	Shut-In(2)
155	821.20	122.24	End Shut-In(2)
158	1950.33	123.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MGO 25%G20%M55%O	2.34
496.00	CO	6.96
0.00	495' GIP	0.00

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63539

DST#: 3

ATTN: Ron Nelson

Test Start: 2016.11.10 @ 23:45:19

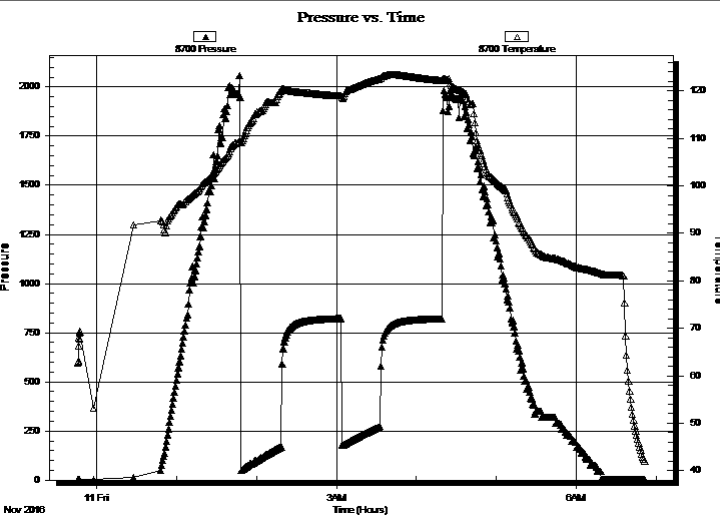
GENERAL INFORMATION:

Formation: Conglomerate Sand
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:48:14
 Time Test Ended: 06:51:58
Interval: 4092.00 ft (KB) To 4153.00 ft (KB) (TVD)
 Total Depth: 4153.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2325.00 ft (KB)
 2317.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8700 Outside

Press@RunDepth: psig @ 4098.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.11.10 End Date: 2016.11.11 Last Calib.: 2016.11.11
 Start Time: 23:45:29 End Time: 06:51:53 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k to strg in 10 min
 45-ISIP-2" bl bk
 30-FFP-w k to strg in 7 min
 45-FSIP-1" bl bk



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
186.00	MGO 25%G20%M55%O	2.34
496.00	CO	6.96
0.00	495' GIP	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63539

DST#: 3

ATTN: Ron Nelson

Test Start: 2016.11.10 @ 23:45:19

Tool Information

Drill Pipe:	Length: 4066.00 ft	Diameter: 3.80 inches	Volume: 57.04 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 57.19 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4092.00 ft			Final 61000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4072.00	
Shut In Tool	5.00			4077.00	
Hydraulic tool	5.00			4082.00	
Packer	5.00			4087.00	21.00 Bottom Of Top Packer
Packer	5.00			4092.00	
Stubb	1.00			4093.00	
Perforations	5.00			4098.00	
Recorder	0.00	8018	Inside	4098.00	
Recorder	0.00	8700	Outside	4098.00	
Blank Spacing	33.00			4131.00	
Perforations	19.00			4150.00	
Bullnose	3.00			4153.00	61.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63539

DST#: 3

ATTN: Ron Nelson

Test Start: 2016.11.10 @ 23:45:19

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.54 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	MGO 25%G20%M55%O	2.336
496.00	CO	6.958
0.00	495' GIP	0.000

Total Length: 682.00 ft Total Volume: 9.294 bbl

Num Fluid Samples: 0

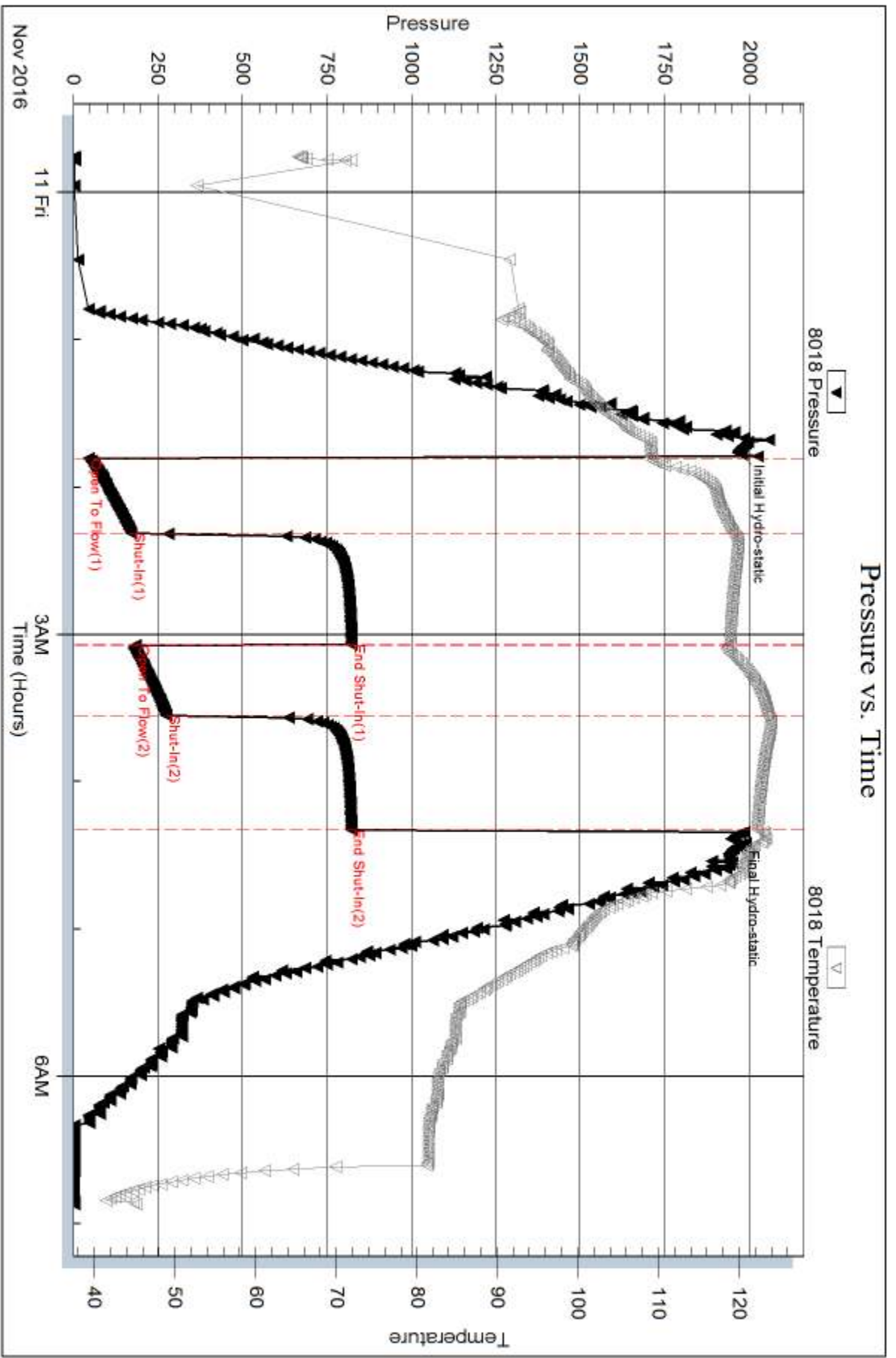
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

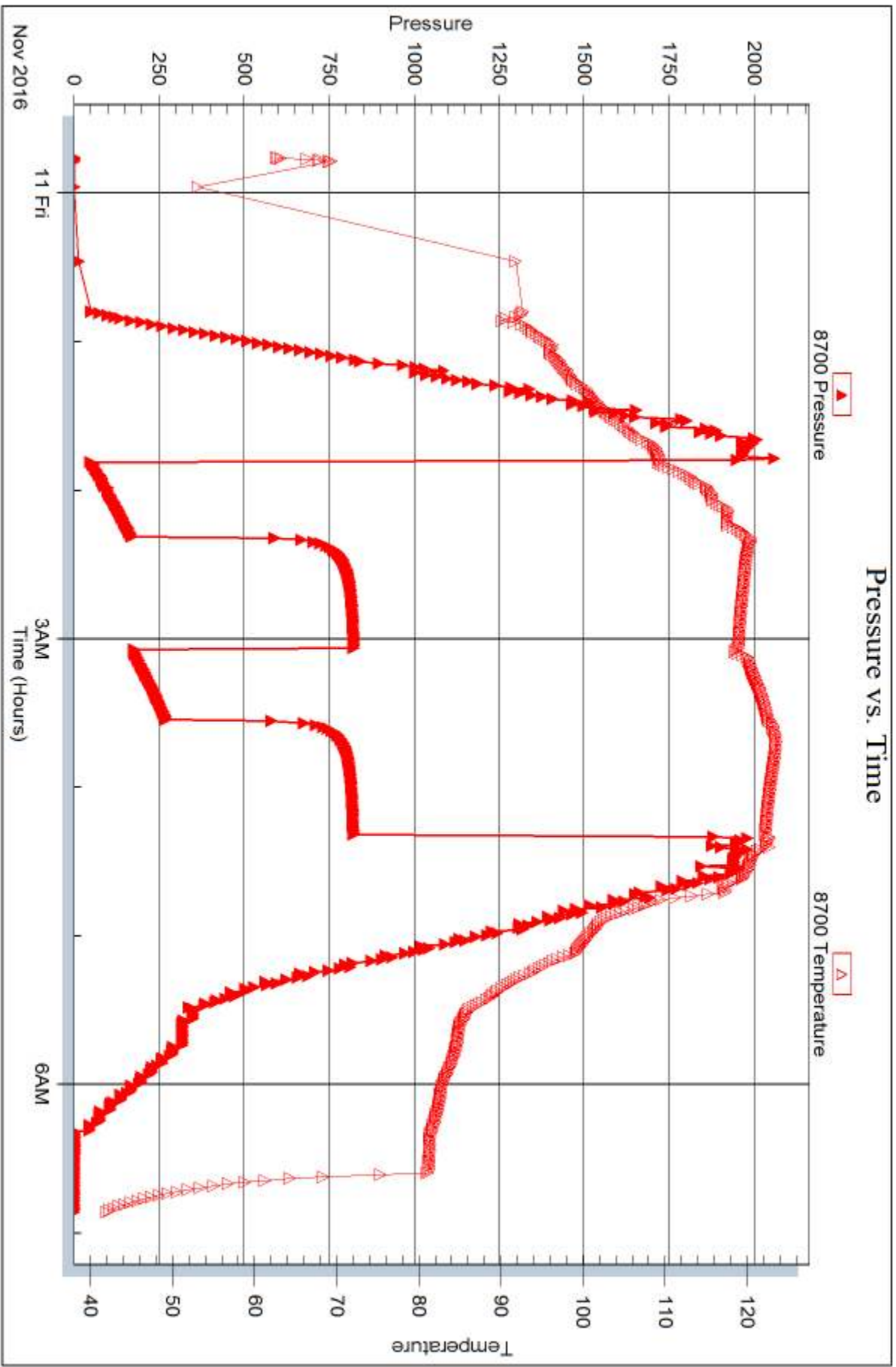


Serial #: 8700

Outside Dow nrg-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 63539

Printed: 2016.11.14 @ 09:25:05



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Younger #1-2

2-14s-22w Trego,KS

Start Date: 2016.11.11 @ 13:50:24

End Date: 2016.11.11 @ 21:04:48

Job Ticket #: 63540 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.11.14 @ 09:24:11



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63540

DST#: 4

ATTN: Ron Nelson

Test Start: 2016.11.11 @ 13:50:24

GENERAL INFORMATION:

Formation: **Conglomerate Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:08:49

Time Test Ended: 21:04:48

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: 4162.00 ft (KB) To 4170.00 ft (KB) (TVD)

Reference Elevations: 2325.00 ft (KB)

Total Depth: 4170.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8018

Inside

Press@RunDepth: 451.02 psig @ 4163.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.11

End Date:

2016.11.11

Last Calib.:

2016.11.11

Start Time: 13:50:24

End Time:

21:04:48

Time On Btm:

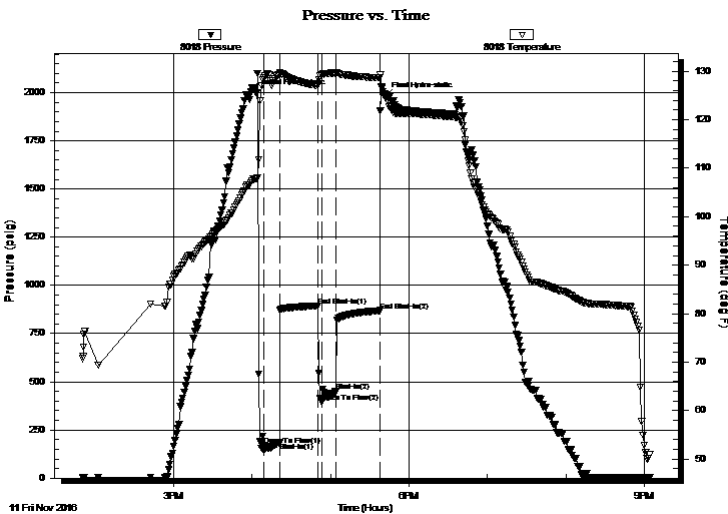
2016.11.11 @ 16:03:34

Time Off Btm:

2016.11.11 @ 17:41:49

TEST COMMENT: 15-IFP-strg bl in 45 sec
30-ISIP-no bl bk
15-FFP-strg bl in 2 min
30-FSIP-no bl 1st 15 min, then surface bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1995.46	107.76	Initial Hydro-static
6	168.52	128.69	Open To Flow (1)
18	183.87	129.28	Shut-In(1)
47	893.76	127.03	End Shut-In(1)
50	393.31	129.39	Open To Flow (2)
61	451.02	129.64	Shut-In(2)
95	869.11	128.66	End Shut-In(2)
99	1977.23	125.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
620.00	Water	8.42
124.00	O&GCMW 10%G20%O30%M40%W	1.74
124.00	MG&WCO 10%G5%M15%W70%O	1.74
165.00	CO	2.31

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63540

DST#: 4

ATTN: Ron Nelson

Test Start: 2016.11.11 @ 13:50:24

GENERAL INFORMATION:

Formation: **Conglomerate Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:08:49

Time Test Ended: 21:04:48

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Interval: 4162.00 ft (KB) To 4170.00 ft (KB) (TVD)

Reference Elevations: 2325.00 ft (KB)

Total Depth: 4170.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8700 Outside

Press@RunDepth: psig @ 4163.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.11.11

End Date:

2016.11.11

Last Calib.:

2016.11.11

Start Time: 13:50:17

End Time:

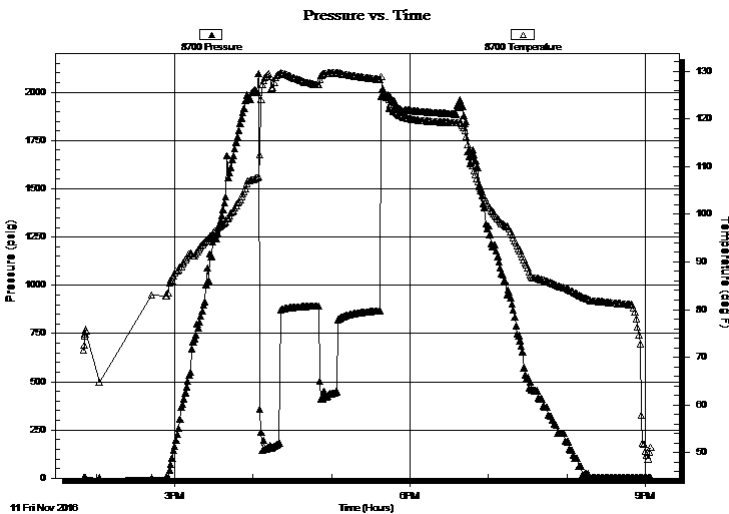
21:04:26

Time On Btm:

Time Off Btm:

TEST COMMENT: 15-IFP-strg bl in 45 sec
30-ISIP-no bl bk
15-FFP-strg bl in 2 min
30-FSIP-no bl 1st 15 min, then surface bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
620.00	Water	8.42
124.00	O&GCMW 10%G20%O30%M40%W	1.74
124.00	MG&WCO 10%G5%M15%W70%O	1.74
165.00	CO	2.31

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63540

DST#: 4

ATTN: Ron Nelson

Test Start: 2016.11.11 @ 13:50:24

Tool Information

Drill Pipe:	Length: 4127.00 ft	Diameter: 3.80 inches	Volume: 57.89 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 58.04 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	61000.00 lb
Depth to Top Packer:	4162.00 ft			Final	65000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	8.00 ft				
Tool Length:	29.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4142.00	
Shut In Tool	5.00			4147.00	
Hydraulic tool	5.00			4152.00	
Packer	5.00			4157.00	21.00 Bottom Of Top Packer
Packer	5.00			4162.00	
Stubb	1.00			4163.00	
Recorder	0.00	8018	Inside	4163.00	
Recorder	0.00	8700	Outside	4163.00	
Perforations	4.00			4167.00	
Bullnose	3.00			4170.00	8.00 Bottom Packers & Anchor
Total Tool Length:	29.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

2-14s-22w Trego,KS

PO Box 1019
Hays KS 67601

Younger #1-2

Job Ticket: 63540

DST#: 4

ATTN: Ron Nelson

Test Start: 2016.11.11 @ 13:50:24

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

27000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
620.00	Water	8.424
124.00	O&GCMW 10%G20%O30%M40%W	1.739
124.00	MG&WCO 10%G5%M15%W70%O	1.739
165.00	CO	2.315

Total Length: 1033.00 ft Total Volume: 14.217 bbl

Num Fluid Samples: 0

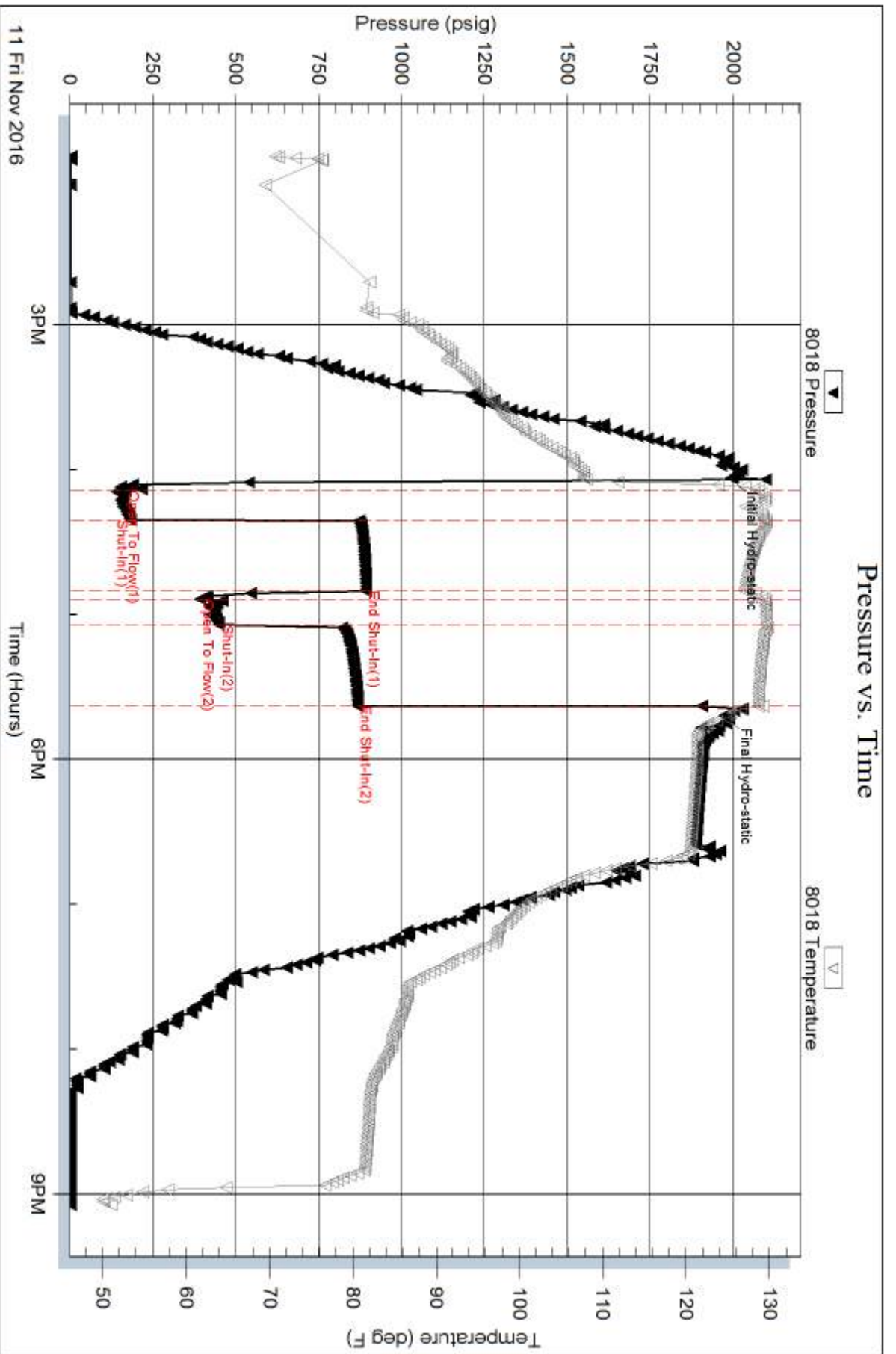
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .27@65F

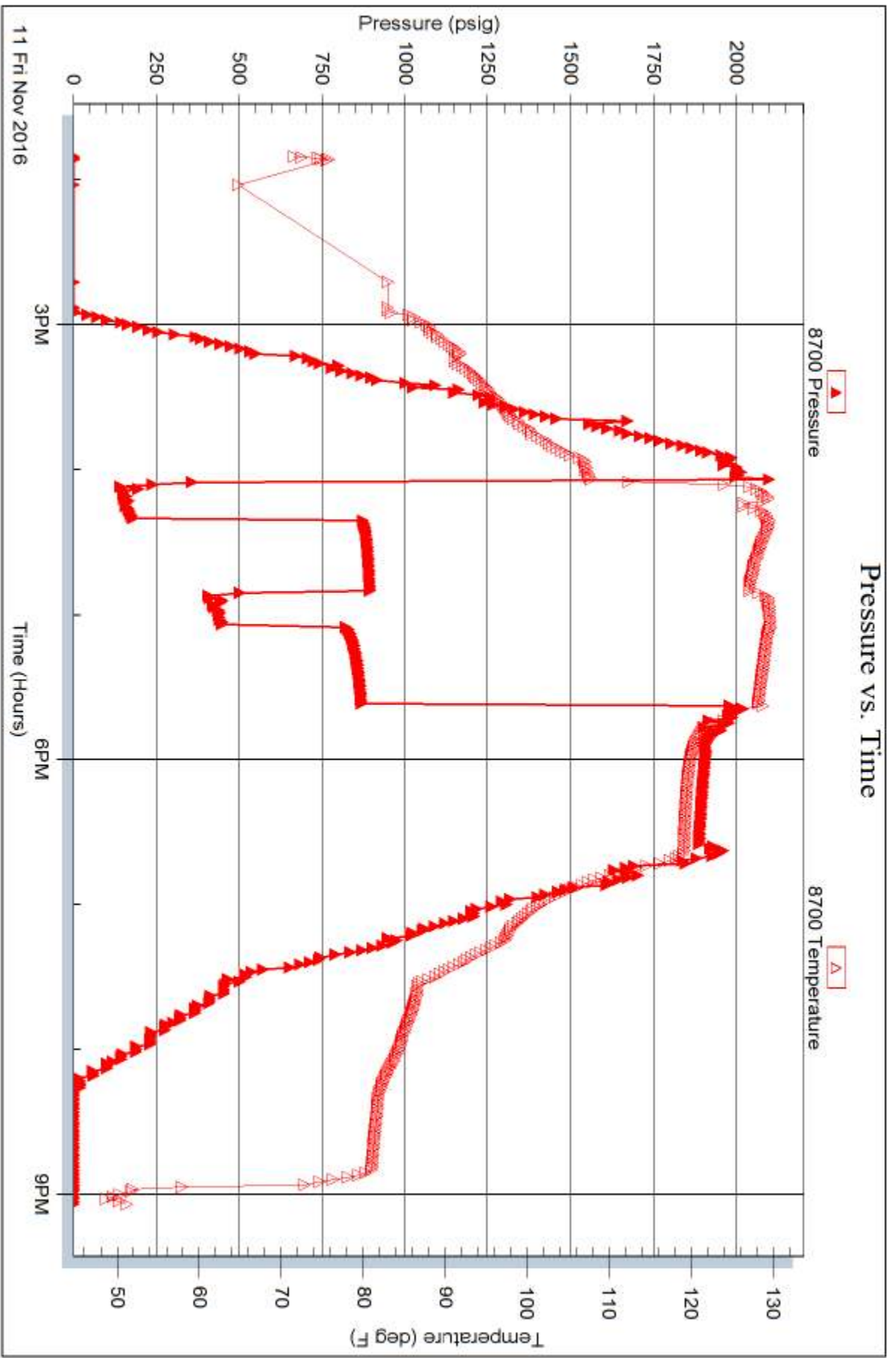


Serial #: 8700

Outside Dow nrg-Nelson Oil Co Inc

Younger #1-2

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 63540

Printed: 2016.11.14 @ 09:24:12



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63537**

Well Name & No. Younger 1-2 Test No. 1 Date 11-8-16
 Company Downing-Nelson Oil Co. Inc Elevation 2325 KB 2317 GL
 Address Po Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig DISCOVERY rig 3
 Location: Sec. 2 Twp. 14ⁿ Rge. 22^w Co. Trego State Ks

Interval Tested 3765-3783 Zone Tested LKC "E"
 Anchor Length 18 Drill Pipe Run 3739 Mud Wt. 9
 Top Packer Depth 3760 Drill Collars Run 30 Vis 50
 Bottom Packer Depth 3765 Wt. Pipe Run — WL 7.6
 Total Depth 3783 Chlorides 2500 ppm System LCM 2 1/2#

Blow Description IIFP - WEAK Blow, died in 15 min
ISIP - NO Blow
FFP - NO Blow, flushed Tool got surge
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>Mud</u>				
	<u>plugged Tool</u>				

Rec Total 65 BHT _____ Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic _____ Test 850 T-On Location 2230
 (B) First Initial Flow _____ Jars _____ T-Started 0035
 (C) First Final Flow _____ Safety Joint _____ T-Open 0250
 (D) Initial Shut-In _____ Circ Sub _____ T-Pulled 0450
 (E) Second Initial Flow _____ Hourly Standby _____ T-Out 0640
 (F) Second Final Flow _____ Mileage 70 RT 52.50 Comments slid Tool 10' TO BOTTOM
 (G) Final Shut-In _____ Sampler _____
 (H) Final Hydrostatic _____ Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 902.50
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 30 Sub Total 902.50

Approved By _____ Our Representative Ray Schwager **THANK YOU**
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63538**

Well Name & No. Younger #1-2 Test No. 2 Date 11-9-16
 Company Downing-Nelson Oil Co Inc Elevation 2325 KB 2317 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 2 Twp. 14th Rge. 22nd Co. Trego State Ks

Interval Tested 3765-3783 Zone Tested LKC "E"
 Anchor Length 18 Drill Pipe Run 3739 Mud Wt. 9
 Top Packer Depth 3760 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3765 Wt. Pipe Run - WL 7.6
 Total Depth 3783 Chlorides 5500 ppm System LCM 2#

Blow Description IFP - WEAK Blow thru-out 1/4" To 1" Blow
ISIP - NO Blow
FFP - WEAK surface Blow thru-out
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>Mud</u>				
	<u>w/show gas</u>				

Rec Total 45 BHT 105 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1779</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1145</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars	T-Started <u>1215</u>
(C) First Final Flow <u>30</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1415</u>
(D) Initial Shut-In <u>731</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1615</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1753</u>
(F) Second Final Flow <u>35</u>	<input checked="" type="checkbox"/> Mileage <u>70 RT</u> 52.50	Comments
(G) Final Shut-In <u>691</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1762</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1102.50</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1102.50</u>	

Approved By _____ Our Representative RAY SCHWAGN THANK YOU

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63539**

Well Name & No. Younger #1-2 Test No. 3 Date 11-10-16
 Company Downing-Nelson Oil Co Inc Elevation 2325 KB 2317 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 2 Twp. 14^s Rge. 22^w Co. Trego State Ks

Interval Tested 4092-4153 Zone Tested Cond. sd.
 Anchor Length 61 Drill Pipe Run 4066 Mud Wt. 9.3
 Top Packer Depth 4087 Drill Collars Run 30 Vis 55
 Bottom Packer Depth 4092 Wt. Pipe Run — WL 7.6
 Total Depth 4153 Chlorides 6000 ppm System LCM 2#

Blow Description IFP - WEAK TO STRONG IN 10 MIN
ISIP - 2" Blow Back
FFP - WEAK TO STRONG IN 7 MIN
FSIP - 1" Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>495</u>	<u>GIP</u>				
<u>496</u>	<u>CO</u>				
<u>186</u>	<u>MGO</u>	<u>25</u>	<u>55</u>		<u>20</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 682 BHT 122 Gravity 38 API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic 1967 Test 1150 T-On Location 2305
 (B) First Initial Flow 44 Jars 250 T-Started 2345
 (C) First Final Flow 171 Safety Joint 75 T-Open 0150
 (D) Initial Shut-In 822 Circ Sub _____ T-Pulled 0420
 (E) Second Initial Flow 183 Hourly Standby _____ T-Out 0651
 (F) Second Final Flow 275 Mileage 70 RT 52.50
 (G) Final Shut-In 821 Sampler _____
 (H) Final Hydrostatic 1950 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Sub Total 1427.50 Accessibility _____
 Total 1427.50 Ruined Shale Packer _____
 MP/DST Disc't _____ Ruined Packer _____

Approved By _____ Our Representative Ray Schwager Thank you

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63540**

Well Name & No. Younger #1-2 Test No. 4 Date 11-11-16
 Company Downing-Nelson Oil Co Inc Elevation 2325 KB 2317 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 2 Twp. 14th Rge. 22nd Co. Trego State Ks

Interval Tested 4162-4170 Zone Tested Congl 5d
 Anchor Length 8 Drill Pipe Run 4127 Mud Wt. 9.3
 Top Packer Depth 4157 Drill Collars Run 30 Vis 54
 Bottom Packer Depth 4162 Wt. Pipe Run - WL 6.8
 Total Depth 4170 Chlorides 6000 ppm System LCM 2[#]

Blow Description IFP - Strong Blow in 45 sec
ISIP - NO Blow
FFP - Strong Blow in 2 min
FSIP - NO Blow first 15 min, then surface blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>6IP</u>				
<u>165</u>	<u>CO</u>				
<u>124</u>	<u>MG+WCOIL</u>	<u>10</u>	<u>70</u>	<u>15</u>	<u>5</u>
<u>124</u>	<u>046CMW</u>	<u>10</u>	<u>20</u>	<u>40</u>	<u>30</u>
<u>620</u>	<u>WATER</u>				

Rec Total 1033 BHT 127 Gravity 38 API RW .27 @ 65 °F Chlorides 27000 ppm

(A) Initial Hydrostatic 1995 Test 1150 T-On Location 1320
 (B) First Initial Flow 168 Jars 250 T-Started 1350
 (C) First Final Flow 183 Safety Joint 75 T-Open 1605
 (D) Initial Shut-In 893 Circ Sub _____ T-Pulled 1735
 (E) Second Initial Flow 393 Hourly Standby _____ T-Out 2104
 (F) Second Final Flow 451 Mileage 70 RT 52.50 Comments _____
 (G) Final Shut-In 869 Sampler _____
 (H) Final Hydrostatic 1977 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1427.50
 Accessibility _____ MP/DST Disc't _____

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30
 Sub Total 1427.50

Approved By _____ Our Representative RAY SCHWAGER *Thank you*

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Marc A. Downing		Geologic Report	
Consulting Petroleum Geologist		Drilling Time and Sample Log	
Operator Downing-Nelson Oil Co., Inc.		Elevation	
Lease Younger No. 1-2		KB 2325 DF 2323 GL 2317	
API # 15-195-23012-0000		Casing Record	
Field Wildcat		Surface 8 5/8" @ 246'	
Location 582' FNL & 1224' FWL		Production 5 1/2" @ 4304'	
Sec. 2 Twp. 14s Rge. 22w		Electrical Surveys	
County Trego State Kansas		CNDL, DIL, MEL, Sonic	
Formation	Sample tops	Log Tops	Datum
Top Anhydrite	1737	1738	+587
Base Anhydrite	1781	1781	+544
Topoka	3434	3434	-1109
Heebner	3670	3671	-1346
Toronto	3686	3688	-1363
LKC	3702	3704	-1379
BKC	3951	3953	-1628
Marmaton	4051	4054	-1729
Cherokee Sh.	4101	4103	-1778
Conglomerate Sand 1	4147	4148	-1823
Conglomerate Sand 2	4161	4162	-1837
Mississippi	4173	4174	-1849
Reworked Arbuckle	4267	4268	-1943
Total Depth	4304	4307	-1982
Reference Well For Structural Comparison		DNOCI	
Fabrizius-Younger #1-35		130' FSL & 1360' FWL	
		Sec. 35-13s-22w	

Drilling Contractor	Discovery Drilling, Rig #3
Commenced	11-4-16
Completed	11-12-16
Samples Saved From	3400 To RTD
Drilling Time Kept From	3300 To RTD
Samples Examined From	3400 To RTD
Geological Supervision From	3400 To RTD

Summary and Recommendations

Due to structural position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for completion.

Respectfully Submitted,

Marc A. Downing

